



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,914	10/21/2003	Bong-Ki kim	1568.1075	3924
49455	7590	09/26/2006	EXAMINER	
STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			CANTELMO, GREGG	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

a

Office Action Summary	Application No. 10/688,914	Applicant(s) KIM, BONG-KI	
	Examiner Gregg Cantelmo	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/21/03 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>SEE OFFICE ACTION</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-14 in the reply filed on July 18, 2006 is acknowledged. Claims 15-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 18, 2006.
2. Applicant's election with traverse in the reply filed on July 18, 2006 is acknowledged. The traversal is on the ground(s) that the Examiner has not set forth why there is a serious burden between the two groups. This is not found persuasive because as set forth in the previous office action, it is maintained that the product of Group I can be made by methods other than that recited in Group II. Therefore since the product can be made by other processes, and since Applicant has failed to show that the product can only be obtained by the method of Group II and not by any other method, the scope of search between the two groups is not co-extensive therefore lending the two groups to the presented requirement for restriction. Thus the requirement is still deemed proper and is therefore made FINAL.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

Drawings

4. The drawings received October 21, 2003 are acceptable for examination purposes.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The term "tightly" in claims 1 and 10 is a relative term which renders the claims indefinite. The term "tightly" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification fails to define the extent to which the binding is tight. The term tightly is a relative term dependent upon a plurality of intrinsic and extrinsic factors and in the absence of a clear definition of the term is deemed relative and indefinite;

b. The term "tighter" in claims 3 and 12 is a relative term which renders the claims indefinite. The term "tighter" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification fails to define the extent to which the binding unit is tighter or what the binding unit is comparatively tighter to. The term tighter is a relative term dependent upon a plurality of intrinsic and extrinsic factors and in the absence of a clear definition of the term is deemed relative and indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

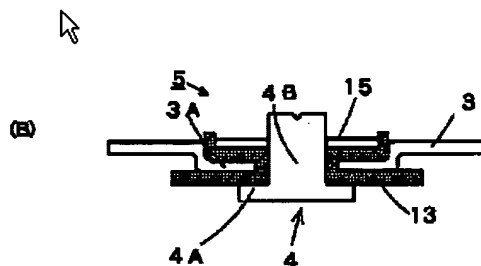
Art Unit: 1745

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 6, 8, 10, 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2000-231917 (JP '917).

JP '917 discloses cap assembly in Fig. 1B comprising a cap plate 3 having a port aperture through which an electrode port 4B is inserted, and an insulating member 13 disposed between the cap plate 3 and the electrode port 4B to insulate the cap plate 3 and the electrode port 4B and to tightly bind the electrode port 4B to the cap plate 3 wherein the insulating member 13, cap plate 3 and electrode port 4B form a single integrated body (Fig. 1B as applied to claim 1).



The insulating member is provided in the same relationship as defined in claim 1, claim 2 serving to further define the insulating member via a particular process. Thus claim 2 has been interpreted as a product-by-process claim. Since the prior art structure of claim 2 is identical to that of JP '917, the product of claim 2 is still anticipated by JP '917. It should be further noted that the insulating material 13 is made by insertion molding (paragraph [0009] as applied to claim 2).

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

The electrode port includes a head portion 4B and an insertion 4A extending from the head portion 4B where the insertion portion 4A has an increased diameter (Fig. 1B, 2 and 5 as applied to claim 5).

JP '917 discloses an insulator 13 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the

Art Unit: 1745

electrode port 4 and a third insulator 13 laterally extending from the second insulator to contact a bottom surface of plate 3 (Figs. 1B and 2 as applied to claim 6).

A port plate 15 is provided on a surface of insulating member 13 and since it is of a conductive material and in direct contact with the electrode port 4B, is held to be electrically connected to the electrode port 4B (Fig. 2 as applied to claim 8).

JP '917 discloses secondary battery (Fig. 3) comprising a battery unit having a negative plate, separator and positive plate stacked upon one another and rolled; a can in which the unit is accommodated (Fig. 3 and paragraph [0003]) and a cap assembly covering the top of the can as shown in Figs. 1B and 3 comprising a cap plate 3 having a port aperture through which an electrode port 4B is inserted, and an insulating member 13 disposed between the cap plate 3 and the electrode port 4B to insulate the cap plate 3 and the electrode port 4B and to tightly bind the electrode port 4B to the cap plate 3 wherein the insulating member 13, cap plate 3 and electrode port 4B form a single integrated body, where electrode tabs are drawn out from the negative and positive plates of the battery and selectively electrically connected to the can (Figs. 1B, 3 and 4B as applied to claim 10).

The insulating member is provided in the same relationship as defined in claim 10, claim 11 serving to further define the insulating member via a particular process. Thus claim 11 has been interpreted as a product-by-process claim. Since the prior art structure of claim 11 is identical to that of JP '917, the product of claim 11 is still anticipated by JP '917. It should be further noted that the insulating material 13 is made by insertion molding (paragraph [0009] as applied to claim 11).

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

The electrode port includes a head portion 4B and an insertion 4A extending from the head portion 4B where the insertion portion 4A has an increased diameter (Fig. 1B, 2 and 5 as applied to claim 13).

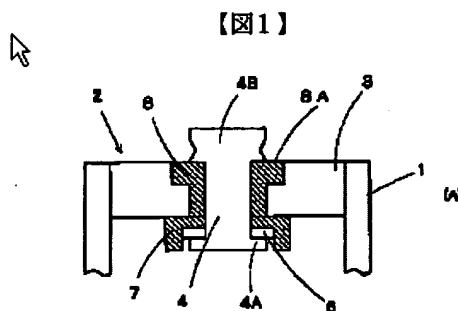
JP '917 discloses an insulator 13 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the

Art Unit: 1745

electrode port 4 and a third insulator 13 laterally extending from the second insulator to contact a bottom surface of plate 3 (Figs. 1B and 2 as applied to claim 14).

7. Claims 1, 2 and 7-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2002-367577 (JP '577).

JP '577 discloses cap assembly in Fig. 1 comprising a cap plate 3 having a port aperture through which an electrode port 4 is inserted, and an insulating member 7/8 disposed between the cap plate 3 and the electrode port 4 to insulate the cap plate 3 and the electrode port 4 and to tightly bind the electrode port 4 to the cap plate 3 wherein the insulating member 7/8, cap plate 3 and electrode port 4 form a single integrated body (Fig. 1B as applied to claim 1).



The insulating member is provided in the same relationship as defined in claim 1, claim 2 serving to further define the insulating member via a particular process. Thus claim 2 has been interpreted as a product-by-process claim. Since the prior art structure of claim 2 is identical to that of JP '577, the product of claim 2 is still anticipated by JP '917.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

The end portions 4A and 4B of the electrode port 4 are drawn out to support a surface of the insulating member upward toward plate 3 (Fig. 1 as applied to claims 7 and 9).

A port plate 6 is provided on a surface of insulating member 7 and since it is of a conductive material and in direct contact with the electrode port 4, is held to be electrically connected to the electrode port 4 (Fig. 1 as applied to claim 8).

JP '577 discloses secondary battery comprising a battery unit having a negative plate, separator and positive plate stacked upon one another and rolled; a can in which the unit is accommodated and a cap assembly covering the top of the can as shown in Fig. 1 comprising a cap plate 3 having a port aperture through which an electrode port 4 is inserted, and an insulating member 7/8 disposed between the cap plate 3 and the electrode port 4 to insulate the cap plate 3 and the electrode port 4 and to tightly bind the electrode port 4 to the cap plate 3 wherein the insulating member 7/8, cap plate 3 and electrode port 4 form a single integrated body, where electrode tabs are drawn out from the negative and positive plates of the battery and selectively electrically connected to the can (Figs. 1 as applied to claim 10).

The insulating member is provided in the same relationship as defined in claim 10, claim 11 serving to further define the insulating member via a particular process. Thus claim 11 has been interpreted as a product-by-process claim. Since the prior art structure of claim 11 is identical to that of JP '577, the product of claim 11 is still anticipated by JP '577.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of

Art Unit: 1745

prima facie obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 3, 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over either JP '917 or JP '577 in view of GB 2111295 A (GB '295).

The teachings of JP '917 and JP '577 have been discussed above and are incorporated herein, independent of one another.

The differences between these references and claims 3, 4 and 12 are that neither JP '917 nor JP '577 teach of the claimed auxiliary binding unit.

GB '295 discloses a battery seal in Fig. 7 wherein the terminal portion of the plate 23 includes a feature 43a which is broadly construed as an auxiliary binding unit to improve the seal between the plate and insulation. This feature includes mating groove features in both the cap plate 43 and seal 45 (as applied to claims 3, 4 and 12).

The motivation for using the arrangement of Fig. 7 of GB '295 wherein an auxiliary binding unit is provided between the cap plate and insulation is that it improves the seal of the battery (page 2, ll. 79-92).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of either JP '917 or JP '577 by providing an auxiliary binding unit between the cap plate and insulation since it would have improved the seal of the battery.

9. Claims 5, 6, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '577 in view of JP 2001-185100 (JP '100).

The teachings of JP '577 have been discussed above and are incorporated herein, independent of one another.

JP '577 discloses an insulator 7/8 wherein the insulation has a first portion interposed between the head of the plate and a top surface of the plate 3, a second insulator interposed between an inner wall of the port and the outer surface of the

electrode port 4 and a third insulator 7 laterally extending from the second insulator to contact a bottom surface of plate 3 (Fig. 1 as applied to claims 6 and 14).

The difference between JP '577 and claims 5, 6, 13 and 14 is that JP '577 does not teach of the diameter of the insertion increasing in a direction opposite to the head.

The change in the shape of the electrode port is not held to be a patentable distinction over the prior art of record. It is the conventional technical means in the art to select the shape of the electrode port as required. Besides, it is pointed out in the description that it may have any shape (see lpara.0029 of the description).

JP '100 discloses an electrode port 5 wherein a portion of the port has an increasing diameter opposite to the head for the purposes of improving the seal.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '577 to alter the shape of the electrode port to other shapes including an electrode port having an increasing diameter opposite to the head since it would have improved the seal of the battery. Furthermore it has been held that the configuration of the claimed shape is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed shape is significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

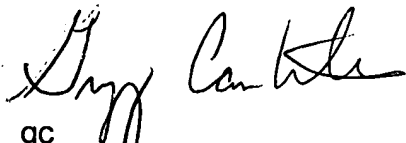
Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 62-093855 discloses a battery cap seal arrangement (see Fig. 5 as an example).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


gc
September 21, 2006

Gregg Cantelmo
Primary Examiner
Art Unit 1745